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**SYSTEM AND METHOD FOR PROVIDING PREVENTIVE  
OVERDRIVE PACING AND ANTITACHYCARDIA PACING  
USING AN IMPLANTABLE CARDIAC STIMULATION DEVICE**

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**Abstract of the Disclosure**

Techniques for enabling both preventive overdrive pacing and antitachycardia pacing (ATP) within an implantable device are provided. The device gains the benefits of overdrive pacing for preventing the onset of a tachycardia and, if one nevertheless occurs, ATP is employed to terminate the tachycardia. In particular, a technique is provided for promptly detecting the onset of atrial tachycardia during preventive overdrive pacing based on loss of capture of atrial pacing pulses. A technique is also provided for using detection of loss of capture of atrial or ventricular pacing pulses to trigger automatic switching from overdrive pacing to ATP. A setup technique determines whether to enable the automatic switching from overdrive pacing to ATP within a particular patient. Also, techniques are provided for verifying loss of capture of atrial or ventricular backup pacing pulses and for detecting low amplitude ventricular fibrillation based on loss of capture of ventricular backup pacing pulses.